Flux dynamics of planktic foraminiferal tests in the south-eastern Bay of Biscay (northeast Atlantic margin)

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Résumé en anglais	The temporal and water depth related dynamics of planktic foraminiferal fluxes in the south-eastern Bay of Biscay are discussed for a two year sampling period (June 2006–June 2008). Two sediment traps deployed at 800 m and 1700 m water depth at a mooring in 2000 m of water depth, were analyzed for the flux of planktic foraminiferal species > 150 μm, in comparison with the total mass flux. Total flux of planktic foraminifera shows seasonal maxima in spring/early summer (> 2000 Ind. m− 2 d− 1) and minima from late summer through winter (< 10 Ind. m− 2 d− 1). The flux of planktic foraminiferal tests in the intermediate to deep water column at the inner Bay of Biscay comprises an intermittent and regionally variable signal of seasonal surface water primary productivity. Significant lateral transport and flux of particles superimposed on the downward mass flux indicate a decoupling of fluxes between the 800-m and 1700-m traps. The 210Pb budget and the presence of certain benthic foraminiferal species in the midwater column prove that the lateral flux originated from the upper continental slope. Despite the temporal and vertical variations of the particulate flux, a well-defined seasonal flux signal can be deduced from the frequency of planktic foraminiferal species.
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